

# Data Toolbox: Administrative Data

- Administrative Data 101
- Using Administrative Data to Help Understand the U.S. Economy and Its People
- **Decennial and Population Estimates**
- Strengths and Weaknesses
- Future Possibilities

# Data Toolbox: Administrative Data

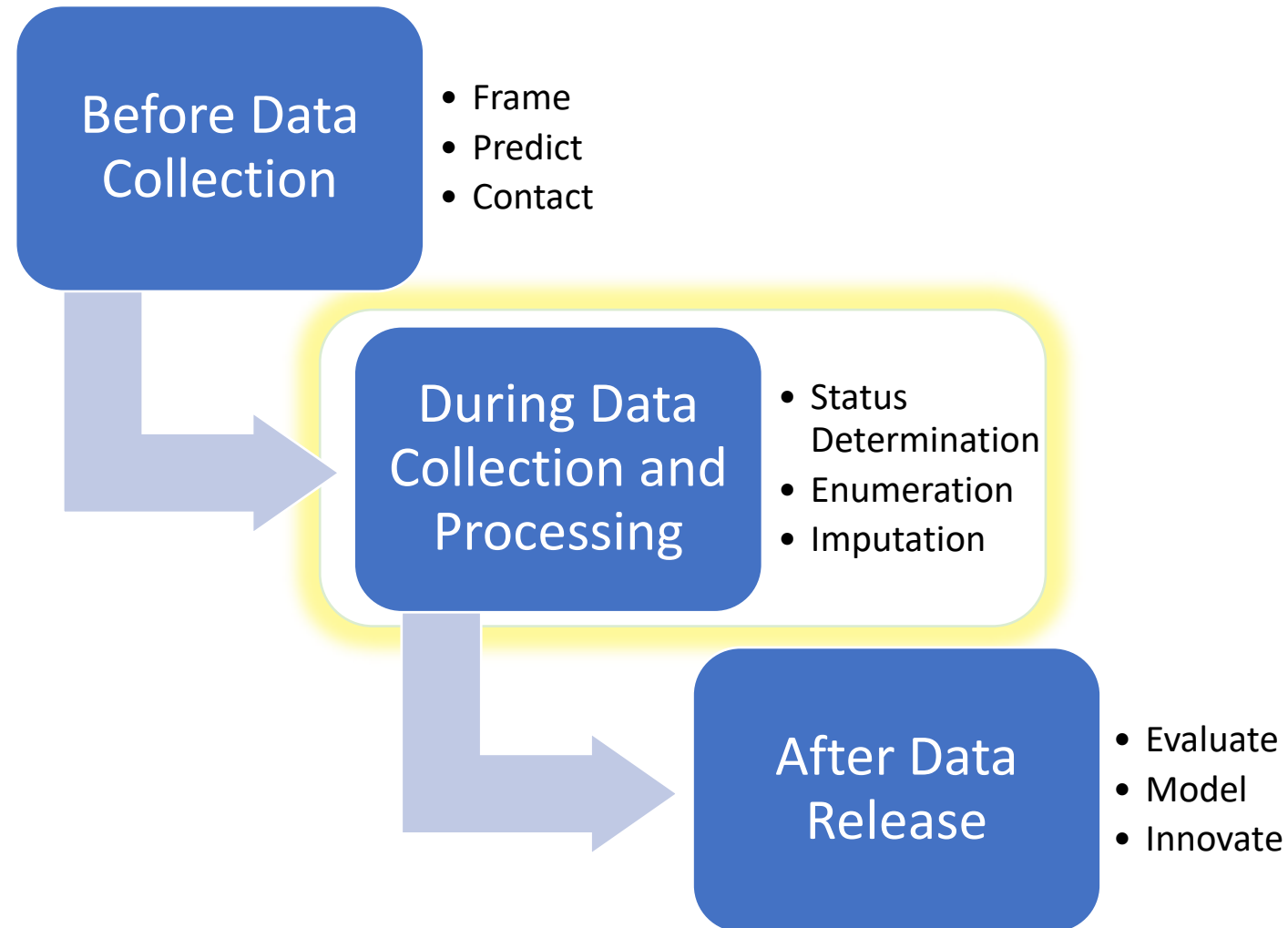
Decennial and Population Estimates

# Decennial Census

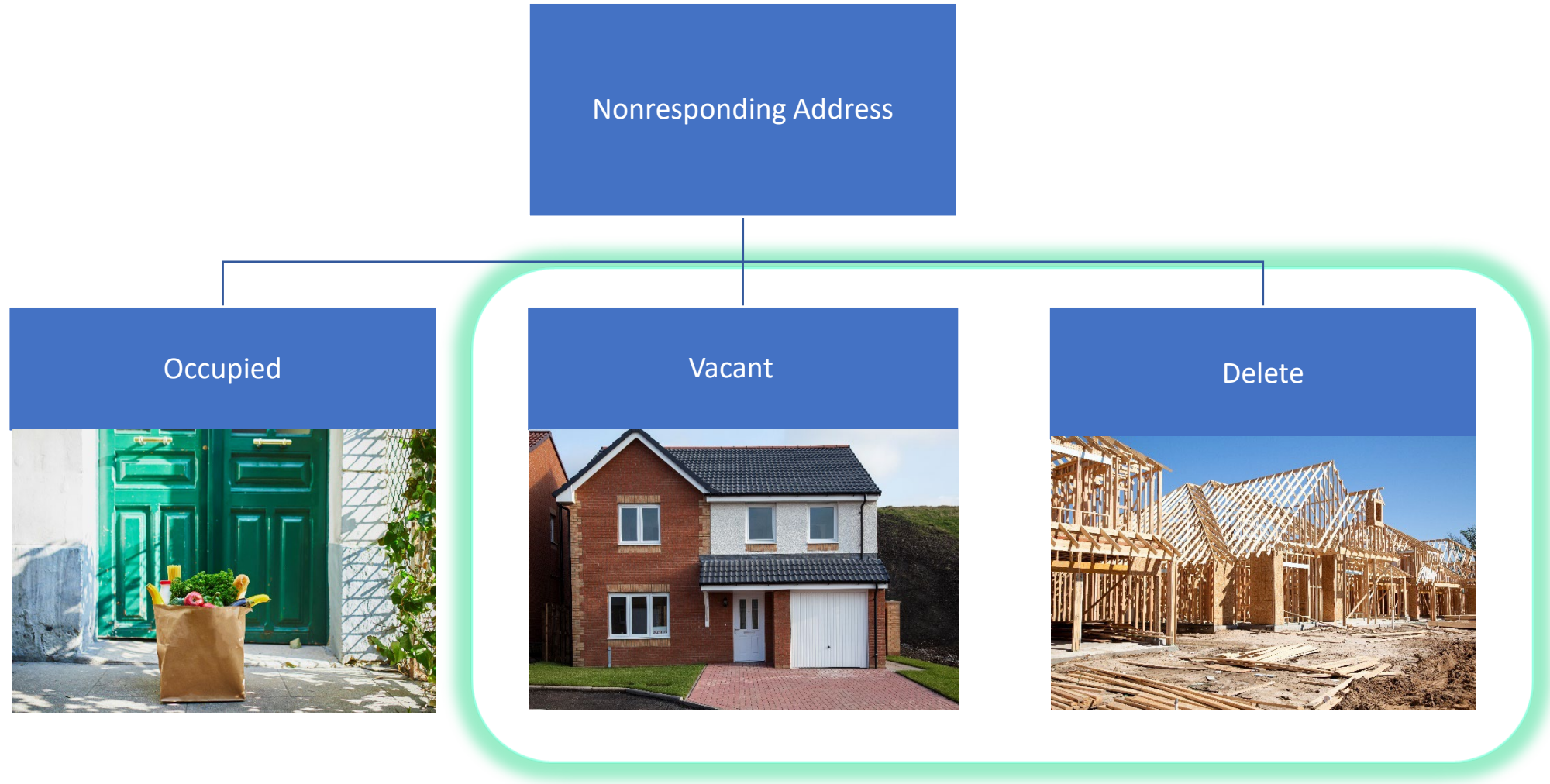
**Tom Mule**

Special Assistant to the Chief, Decennial Statistical Studies Division

# Decennial Census Uses of Administrative Data



# Status Determination: Vacant/Delete



# Status Determination: Occupied

Nonresponding Address

Occupied



Vacant

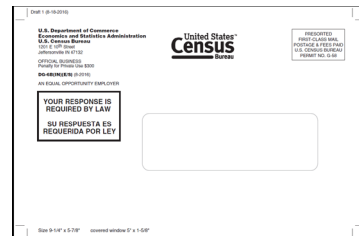


Non-Existent/Delete

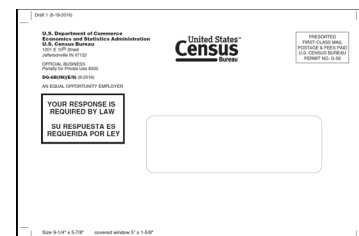


# Using Administrative Data to Enumerate Nonresponding Housing Units

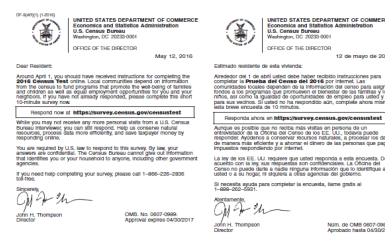
#1 Initial letter



#2 Reminder letter



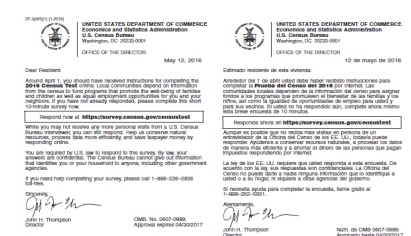
#3 Reminder postcard



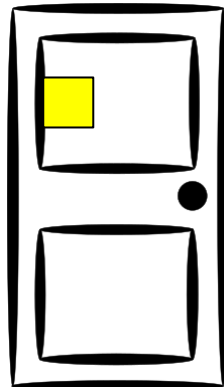
#4 Questionnaire



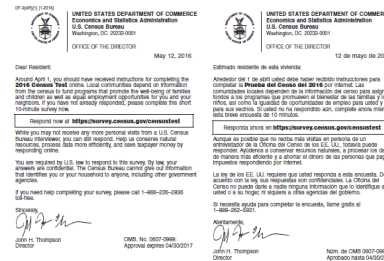
#5 Not too late postcard



#6 First visit by enumerator and notice of visit



#7 Final postcard about 1 week after visit



Receive a self-response return—we use the respondent provided data.

No return received—we use Administrative Records data.



This example is for Self-Response TEA1.



# Administrative Data: Characteristic Imputation

## Person 1

5. Please provide information for each person living here. If there is someone living here who pays the rent or owns this residence, start by listing him or her as Person 1. If the owner or the person who pays the rent does not live here, start by listing any adult living here as Person 1.

What is Person 1's name? *Print name below.*

First Name MI

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Last Name(s)

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6. What is Person 1's sex? Mark ☒ ONE box.

☐ Male ☐ Female

7. What is Person 1's age and what is Person 1's date of birth? For babies less than 1 year old, do not write the age in months. Write 0 as the age.

Age on April 1, 2020 Print numbers in boxes.

Month	Day	Year of birth	

years

→ NOTE: Please answer BOTH Question 8 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.

8. Is Person 1 of Hispanic, Latino, or Spanish origin?

☐ No, not of Hispanic, Latino, or Spanish origin

☐ Yes, Mexican, Mexican Am., Chicano

☐ Yes, Puerto Rican

☐ Yes, Cuban

☐ Yes, another Hispanic, Latino, or Spanish origin – *Print, for example, Salvadoran, Dominican, Colombian, Guatemalan, Spaniard, Ecuadorian, etc.*

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9. What is Person 1's race?

Mark ☒ one or more boxes AND print origins.

☐ White – *Print, for example, German, Irish, English, Italian, Lebanese, Egyptian, etc.*

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☐ Black or African Am. – *Print, for example, African Am., Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc.*

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☐ American Indian or Alaska Native – *Print or enroll or principal tribe(s), for example, Navajo, Blackfoot Tribe, Mayan, Aztec, Inuit, or Tribal Traditional Government, etc.*

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☐ Vietnamese ☐ Native Hawaiian

☐ Filipino ☐ Korean ☐ Samoan

☐ Asian Indian ☐ Japanese ☐ Chamorro

☐ Other Asian – *Print, for example, Pakistani, Cambodian, Hmong, etc.*

☐ Other Pacific Islander – *Print, for example, Tongan, Fijian, Marshallian, etc.*

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☐ Some other race – *Print race or origin.*

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**What is this person's age and what is this person's date of birth?** *For babies less than 1 year old, do not write the age in months. Write 0 as the age.*

*Print numbers in boxes.*

Age on April 1, 2020	Month	Day	Year of birth
<div><div></div><div></div><div></div></div> years	<div><div></div><div></div></div>	<div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div></div>

# Administrative Data: Characteristic Imputation

**What is this person's age and what is this person's date of birth?** *For babies less than 1 year old, do not write the age in months. Write 0 as the age.*

Age on April 1, 2020      *Print numbers in boxes.*      Month      Day      Year of birth

years                 

Census Address	101 Main St.	101 Main St.
Person Number	1	2
Name	John Doe	Baby Doe
Age	?	1
Date of Birth	?	1/1/2019
Sex	Male	Female
Relationship	Householder	Biological Child
Race	Black	Black
Hispanic Origin	Non-Hispanic	Non-Hispanic

Do we have age data for Person 1 from other federal data sources?



# Administrative Data: Characteristic Imputation

**Person 1**

5. Please provide information for each person living here. If there is someone living here who pays the rent or owns this residence, start by listing him or her as Person 1. If the owner or the person who pays the rent does not live here, start by listing any adult living here as Person 1.

What is Person 1's name? *Print name below.*

First Name	MI
Last Name(s)	

6. What is Person 1's sex? Mark *X* ONE box.

☐ Male    ☐ Female

7. What is Person 1's age and what is Person 1's date of birth? For babies less than 1 year old, do not write the age in months. Write 0 as the age.

	<i>Print numbers in boxes.</i>			
Age on April 1, 2020	Month	Day	Year of birth	
years				

→ NOTE: Please answer BOTH Question 5 about Hispanic origin and Question 9 about race. For this census, Hispanic origins are not races.

8. Is Person 1 of Hispanic, Latino, or Spanish origin?

☐ No, not of Hispanic, Latino, or Spanish origin

☐ Yes, Mexican, Mexican Am., Chicano

☐ Yes, Puerto Rican

☐ Yes, Cuban

☐ Yes, another Hispanic, Latino, or Spanish origin – Print, for example, Salvadoran, Dominican, Colombian, Guatemalan, Spaniard, Ecuadorian, etc. *→*

9. What is Person 1's race?

Mark *X* one or more boxes AND print origin.

☐ White – Print, for example, German, Irish, English, Italian, Lebanese, Egyptian, etc. *→*

☐ Black or African Am. – Print, for example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc. *→*

☐ American Indian or Alaska Native – Print name of enrolled or principal tribe(s), for example, Navajo (Nation), Blackfoot Tribe, Mayan, Aztec, Native Village of Barrow (Inupiat Traditional Government, Nome Eskimo Community), etc. *→*

<input type="checkbox"/> Chinese	<input type="checkbox"/> Vietnamese	<input type="checkbox"/> Native Hawaiian
<input type="checkbox"/> Filipino	<input type="checkbox"/> Korean	<input type="checkbox"/> Samoan
<input type="checkbox"/> Asian Indian	<input type="checkbox"/> Japanese	<input type="checkbox"/> Chamorro

Other Asian – Print, for example, Pakistani, Cambodian, Hmong, etc. *→*

☐ Some other race – Print race or origin. *→*

**9. What is Person 1's race?**  
Mark ☒ one or more boxes **AND** print origins.

☐ White – *Print, for example, German, Irish, English, Italian, Lebanese, Egyptian, etc. ?*

☐ Black or African Am. – *Print, for example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc. ?*

☐ American Indian or Alaska Native – *Print name of enrolled or principal tribe(s), for example, Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, etc. ?*

☐ Chinese      ☐ Vietnamese      ☐ Native Hawaiian

☐ Filipino      ☐ Korean      ☐ Samoan

☐ Asian Indian      ☐ Japanese      ☐ Chamorro

☐ Other Asian – *Print, for example, Pakistani, Cambodian, Hmong, etc. ?*      ☐ Other Pacific Islander – *Print, for example, Tongan, Fijian, Marshallese, etc. ?*

☐ Some other race – *Print race or origin. ?*

# Administrative Data: Characteristic Imputation

Census Address	101 Main St.
Person Number	1
Name	John Doe
Age	43
Date of Birth	1/1/1973
Sex	Male
Relationship	Householder
Race	?
Hispanic Origin	Non-Hispanic

Do we have race  
data for Person 1  
from the  
2010 Census?

Do we have race  
data for Person 1  
from other federal  
data sources?

## 9. What is Person 1's race?

Mark ☒ one or more boxes **AND** print origins.

☐ White — *Print, for example, German, Irish, English, Italian, Lebanese, Egyptian, etc. ?*

☐ Black or African Am. — *Print, for example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc. ?*

☐ American Indian or Alaska Native — *Print name of enrolled or principal tribe(s), for example, Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, etc. ?*

☐ Chinese ☐ Vietnamese ☐ Native Hawaiian

☐ Filipino ☐ Korean ☐ Samoan

☐ Asian Indian ☐ Japanese ☐ Chamorro

☐ Other Asian — *Print, for example, Pakistani, Cambodian, Hmong, etc. ?*

☐ Other Pacific Islander — *Print, for example, Tongan, Fijian, Marshallese, etc. ?*

☐ Some other race — *Print race or origin. ?*

# Preliminary Agreement of Race and Hispanic Origin Responses to Past Census and Administrative Record Assignments

Preliminary Race and Hispanic Origin Analysis:

- 14 categories of Race and Hispanic origin assignment:

Non-Hispanic	Hispanic
White Alone	White Alone
Black Alone	Black Alone
American Indian and Alaska Native Alone	American Indian and Alaska Native Alone
Asian Alone	Asian Alone
Native Hawaiian and Pacific Island Alone	Native Hawaiian and Pacific Island Alone
Some Other Race Alone	Some Other Race Alone
Multiracial	Multiracial

- 2020 Census reports and AR assignment available and agree:
  - 89% of the 14 Race/Hispanic Origin assignment is the same.

# Data Toolbox: Administrative Data

Decennial and Population Estimates

# Population Estimates

Administrative Records in the Population Estimates

**Eric Jensen**

Senior Technical Expert for Demographic Analysis  
Population Division

# Population Balancing Equation



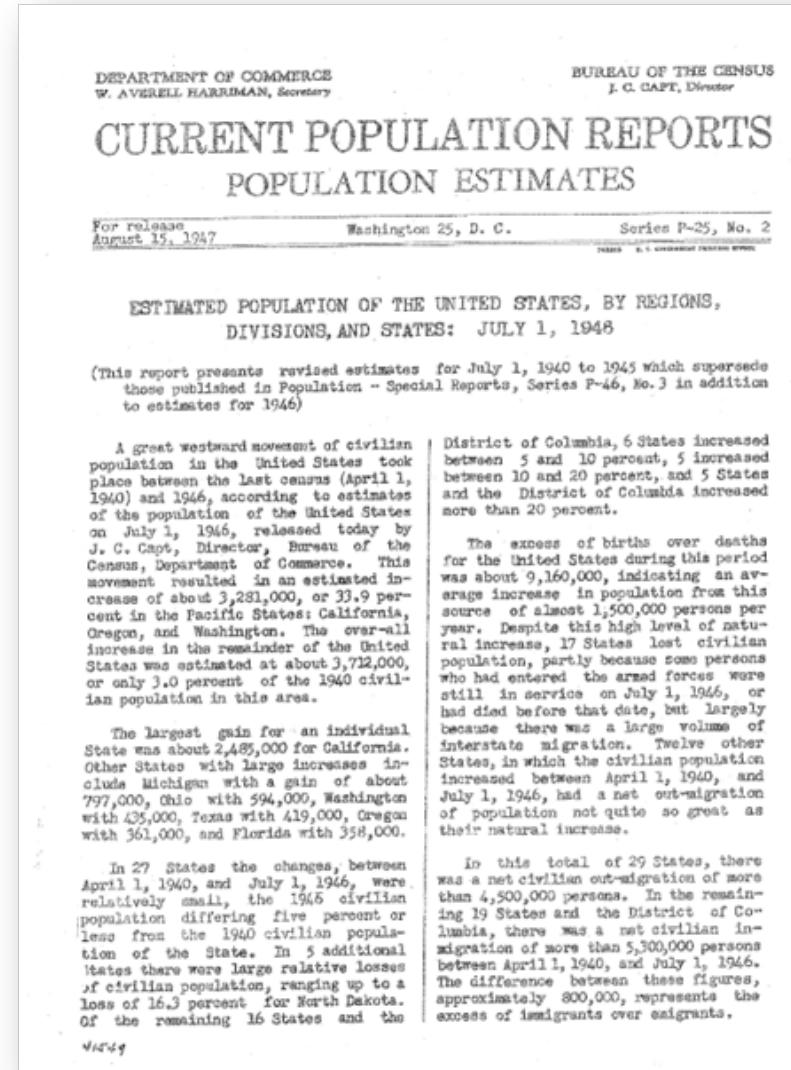
# Population Balancing Equation





# Birth Records

- Births are registered when a birth certificate is filled out.
- Current birth records are considered 100% complete.
- Incentives to register a birth.
- Historically, there was an under-registration of births.
- Adjustments for birth registration.



# Birth Records

- Birth registration test.
- 1950 Census/no self-response option.
- Births from December 1949 to March 1950.
- Matched to birth certificates.
- Showed under-registration.

<p><b>CONFIDENTIAL</b> This inquiry is authorized by Act of Congress (46 Stat. 21; 13 U. S. C. 201-218) which requires that a report be made. The information furnished is accorded confidential treatment. The Census report cannot be used for purposes of taxation, investigation, or regulation.</p>			<p>BUDGET BUREAU NO. 13-2961. APPROVAL EXPIRES Dec. 31, 1950.</p>	
<p><b>FORM P3</b> U. S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS</p>			<p>State _____ County _____</p>	
<p><b>INFANT CARD</b></p>			<p>E. D. No. _____ Sheet No. _____ Line No. _____</p>	
<p><b>1950 CENSUS OF POPULATION AND HOUSING</b> (For every child born in January, February, or March 1950)</p>			<p>Enumerated by _____ <b>LEAVE BLANK</b></p>	
<p>1. Is residence on a farm? (Copy from Population schedule item 4 for "head of household.") Yes <sup>1</sup> <input type="checkbox"/> No <sup>2</sup> <input type="checkbox"/></p>			<p>Date _____</p>	
<p>2. NAME OF INFANT (Please print)</p> <p>(Last) _____ (First) _____ (Initial) _____</p>			<p><b>ASK THESE ITEMS</b></p>	
<p>3. RACE OF INFANT (Copy from schedule item 9.) White <sup>1</sup> <input type="checkbox"/> Negro <sup>2</sup> <input type="checkbox"/> American Indian <sup>3</sup> <input type="checkbox"/> Other <sup>4</sup> <input type="checkbox"/></p>			<p>10. DATE OF BIRTH _____, 1950 (Month) _____ (Day) _____</p>	
<p>4. SEX OF INFANT (Copy from schedule item 10.) Male <sup>1</sup> <input type="checkbox"/> Female <sup>2</sup> <input type="checkbox"/></p>			<p>11. POST OFFICE ADDRESS OF INFANT'S USUAL PLACE OF RESIDENCE House Number _____ and Street _____ or RFD No. _____</p> <p>City or Town _____ State _____</p>	
<p>5. Is father enumerated in this household? Yes <sup>1</sup> <input type="checkbox"/> No <sup>2</sup> <input type="checkbox"/></p>			<p>12. INFANT'S PLACE OF BIRTH (ACTUAL PLACE—NOT USUAL RESIDENCE) City _____ (If outside city limits, write "RURAL.") <b>LEAVE BLANK</b></p>	
<p>IF "YES" in item 5, copy the answers to items 6, 7, 8, and 9, from the Population schedule. If "NO" in item 5, skip to item 10.</p>			<p>County _____ State _____</p>	
<p>6. NAME OF FATHER (Please print) (Copy from schedule item 7.)</p> <p>(Last) _____ (First) _____ (Initial) _____</p>			<p>13. NAME OF HOSPITAL _____</p> <p>If "NONE" above, type of attendant at birth: Doctor <sup>1</sup> <input type="checkbox"/> Midwife <sup>2</sup> <input type="checkbox"/> Other (Specify) _____</p>	
<p>7. AGE OF FATHER ON LAST BIRTHDAY (Copy from schedule item 11.) _____</p>			<p>14. MAIDEN NAME OF MOTHER (Please print)</p> <p>(Last) _____ (First) _____ (Initial) _____</p>	
<p>8. OCCUPATION OF FATHER (Copy from schedule item 20a; if that item is blank, enter "None.") _____</p>			<p>15. AGE OF MOTHER ON LAST BIRTHDAY (Copy from schedule item 11, or ask question.) _____</p>	
<p>9. INDUSTRY OF FATHER (Copy from schedule item 20b; if that item is blank, enter "None.") _____</p>			<p>16. EDUCATION OF MOTHER (Copy from schedule items 26 and 27 or ask questions.) a. What is the highest grade of school that she has attended? _____ b. Did she finish this grade? Yes <sup>1</sup> <input type="checkbox"/> No <sup>2</sup> <input type="checkbox"/></p>	
<p><b>LEAVE BLANK</b> A B C</p>			<p>17. ORDER OF BIRTH Is this the 1st, 2d, etc., child the mother has ever borne? (Do not count stillbirths but count all live births, including children now deceased.) _____</p>	

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# Race and Hispanic Origin

- Birth certificates include fields for the race and Hispanic origin of the mother and father, not the child.
- We use census data to calculate the proportion of children in a specific race or Hispanic origin group given their parents' race or Hispanic origin.
- These proportions are applied to aggregated birth records.



# Population Balancing Equation





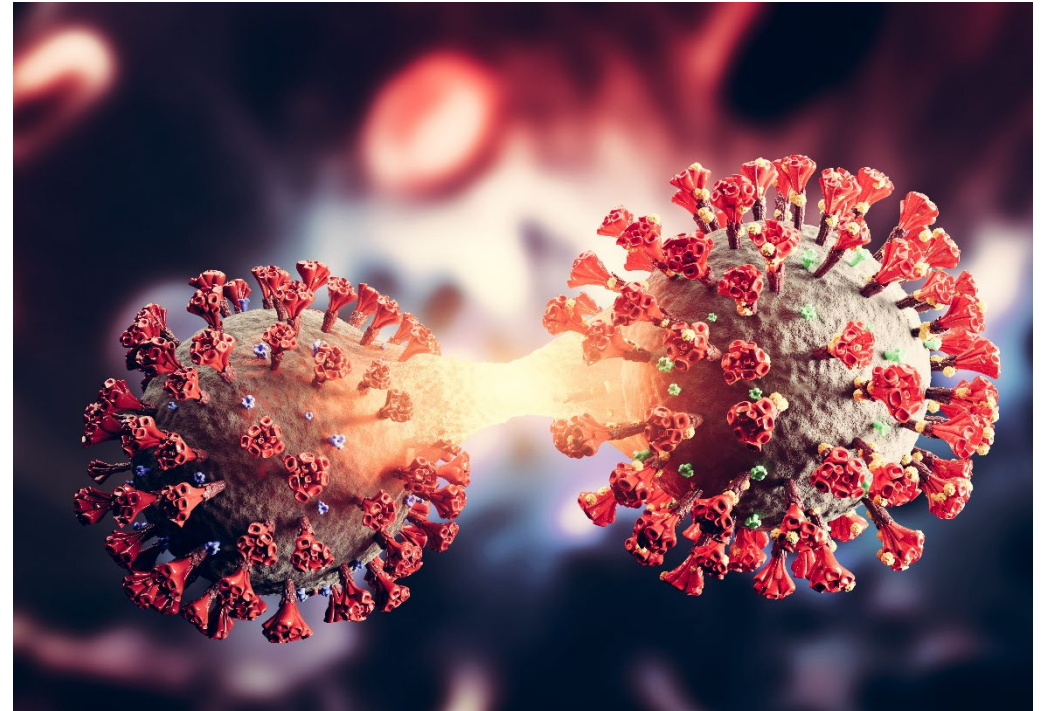
# Deaths

- Deaths are registered when the death certificate is processed.
- National Center for Health Statistics (NCHS).
- Micro records allow more flexibility.
- Comprehensive source of data for producing estimates.
- Race and Hispanic origin information is not always accurate.



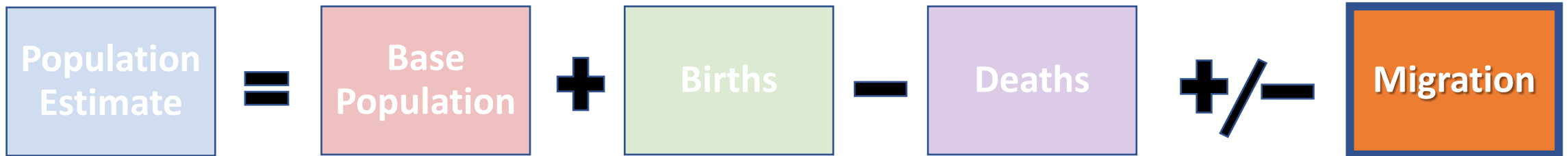
# COVID-19

- NCHS released provisional daily updates of COVID-19 deaths and total deaths by week, month, and year for 2020 and 2021.
- We incorporated these data to account for deaths during the pandemic.
- There were some limitations for small counties and small population groups.
- This allowed us to make estimates that reflected current mortality trends.





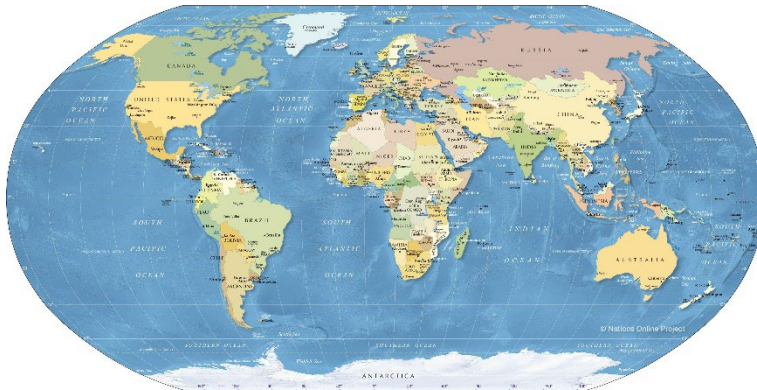
# Population Balancing Equation



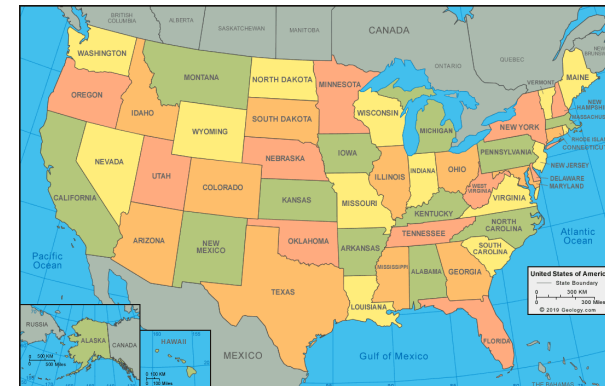
# Migration

## Migration

### International Migration



### Domestic Migration



# International Migration

- Historically, we used mostly administrative data.
- Current method relies heavily on data from the American Community Survey.
- Because of COVID-19, we are using administrative data on:
  - Visas holders.
  - International students.
  - Refugees.
  - Asylees.



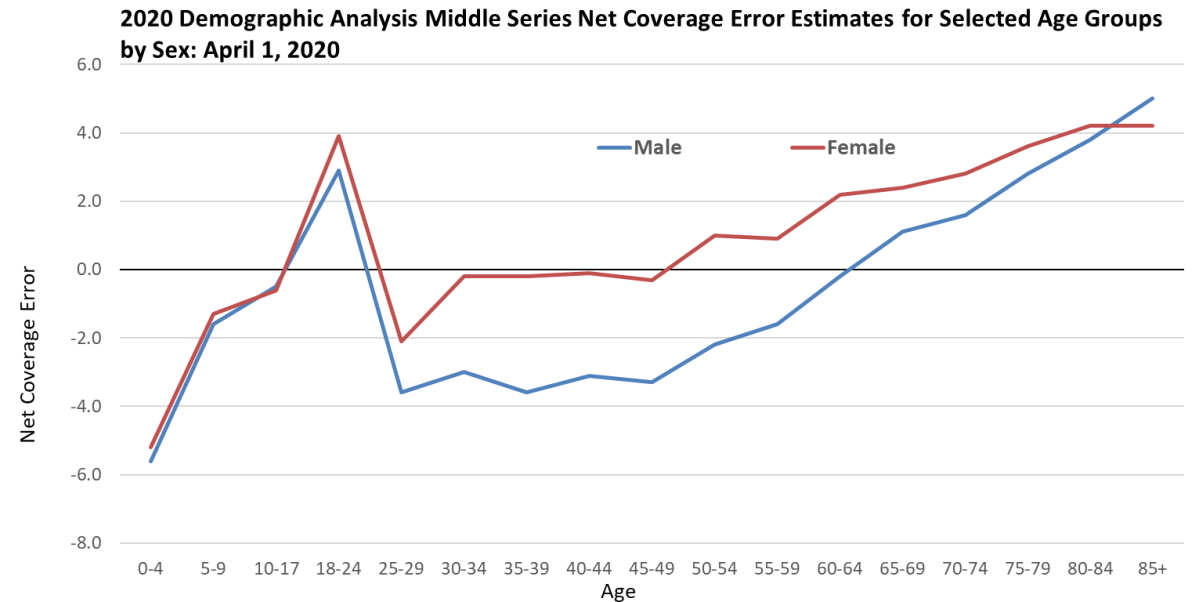
# Domestic Migration

- Internal Revenue Service (IRS) tax filing records.
- Medicare Enrollment file.
- We link 2 consecutive years and look for a change of address.
- Calculate migration rates at the county level.



# Demographic Analysis

- Demographic Analysis (DA) is one of two methods used to measure coverage in the 2020 Census.
- Historical and current birth and death records, migration data, and Medicare enrollment records.
- We develop estimates of the population on April 1, 2020.
- Compare the estimates to the census counts to calculate net coverage error.



Source: U.S. Census Bureau, Population Division, 2020 Demographic Analysis (December 2020 release), and 2020 Census special tabulation (DRB Approval Number: CBDRB-FY22-DSEP-001).



# The Undercount of Young Children

- Young children aged 0–4 have higher undercounts than other age groups.
- Persistent issue we see across different years of the census.
- DA estimates of net coverage error are the best estimate we have for this population.
- Census Bureau's Young Children Working Group is focused on this issue.



### Counting Young Children National Event

February 22, 2020  
Cleveland, OH

**U.S. Census Bureau**  
34,368 followers  
Timo · @

Today at our Counting Young Children news conference Director Dillingham and partners from Great Lakes Science Center, Sesame Workshop, United Way, and Federation of Pediatric Organizations (FPO) spoke to audience members about the importance of counting children under 5 on the #2020Census.

Also at the event, FPO announced that 3/25 has officially been declared Every Child Counts Day!



1 2020CENSUS.GOV

### Sesame Street Meet & Greet Schedule

10:00 am - 10:30 am	Boys
10:30 am - 11:00 am	Girls
11:00 am - 11:30 am	Boys
11:30 am - 12:00 pm	Girls
12:00 pm - 12:30 pm	Boys
12:30 pm - 1:00 pm	Girls

Shape your future START HERE >

United States Census 2020



# Housing Unit Estimates

- We start with the number of housing units in the census
- New construction
- Conversions from nonresidential to residential
- Housing unit loss
  - FEMA data
- Manufactured homes